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## COMPOUND AND GEOMETRY-DEPENDENT PRE-COMPOUND NUCLEAR MODELS TO CALCULATE THE NUCLEAR DATA FOR FUSION REACTORS

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Compound and geometry-dependent precompound nuclear reactions are very useful concepts of nuclear theory to calculate cross-sections of neutrons around 14 MeV and below scattered by nuclei of material of installations producing energy of nuclear fusion. If these concepts shall be used to discuss and improve the experimental data they have to be completed by DWBA-type of contributions to the small step region of the incident neutrons which can account for the angular distribution of the scattered neutron, because there is the difficulty to separate experimentally the incoming from the scattered beam. The angle integrated cross-section in this region can be shown to be accounted for the surface dependent components of Blann's geometry-dependent precompound mechanism of the statistical state density and level density contribution of the compound and precompound components being calculated according to the recent developments by Anzaldo using the analytic number theory. The experimental data have been taken from the results by Hermsdorf, Meister, Sassonov, Seeliger, Seidel, and Shanin and Takahashi.